EXHIBIT B

(VERSION WITH MARKINGS TO INDICATE CHANGES MADE)

PROPOSED AMENDMENTS TO THE SPECIFICATION

In the specification, please make the following changes:

On page 1, please amend the Title and the first paragraph as follows:

SELF[-]_GUYED STRUCTURES

This is the Utility Patent Application related to Provisional Patent Application number 60/216,298 by Dennis J. Newland, hereby incorporated, and claims benefit of priority thereof.

On page 2, please amend the second and third paragraphs as follows:

The tensile-integrity (or tensegrity) sphere was introduced by Fuler (1962) in U.S. Patent No. 3,063,521 as he used multiple modules of one variation of one embodiment of this invention e.g. a 3 discontinuous strut **HYPERBOLOID SELF-GUYED STRUCTURE (SGS)** with a circumferential configuration of guys to connect the strut ends in the "end-planes". At least one embodiment of [T]this invention is an improvement of Fuler's in that it includes [two] other guy configurations for the 3 discontinuous strut **HYPERBOLOID SGS** as well as including **HYPERBOLOID SGS's** of four or more struts, each with three guy configurations and also including strut arrangements which intersect at an internal or a peripheral point as well as the discontinuous configuration.

At least one embodiment of [T]this invention is an improvement of these previous structures in that it may include[s three] additional guy configurations for these 6 and 3 strut **PLANAR SGS's** as well as maybe including 4,5 and 7 or more strut configurations, each with [three] additional guy configurations and configurations where the strut planes

are not necessarily orthogonal and configurations where struts intersect at an internal or a peripheral point as well as the discontinuous configuration.

On page 3, please amend the first and second paragraphs as follows:

Matan et al in U. S. Patent No. 5,688,604 (1997) and Jacobs in U.S. Patent No. 4,449,348 (1984) each devised structures composed of tension and compression members but in each case there was a twisting and/or a bending force on the compression members unlike at least one embodiment of this invention.

Much of the [P]prior art has been limited to the configurations described above which have not enjoyed widespread use. At least one embodiment of [T]this invention provides many additional configurations of the naturally material efficient structural design strategy of limiting structural elements to a purely compressional or a purely tensional load. By judicious choice of materials a wide range of strength, toughness, rigidity and/or flexibility and load response characteristics can be designed into these structures. By judicious combinations of **SGS's** either with other **SGS's** or with traditional structures, redundancy and failure tolerant designs can be achieved. Attractive and interesting as well as functional designs for applications where the structure will be visible are also advantages of this invention. At least one embodiment of [T]these **SGS's** [are] is pre-stressed and by varying this pre-stress load the designer can achieve differing structural characteristics (e.g. rigidity, resonance damping etc.) with the same structural elements. At least one embodiment of the SGS's can be made collapsible for ease of transportation or storage should collapsibility be a desir[e]able feature of the structure being used.

On page 4, please amend the first, second, third full paragraphs and the last paragraph, which starts on page 4 and ends on page 5, as follows:

This invention is, in at least one embodiment, an improvement of the prior art in that it includes new configurations of compression members or struts and tension members or guys to create new static structures having the ability to meet certain given design goals more economically and in more aesthetically pleasing arrangements. Embodiments of [T]this invention provide[s] many additional configurations of the naturally material efficient structural design strategy of limiting structural elements to a purely compressional or a purely tensional load.

This invention, **SELF-GUYED STRUCTURES (SGS's),** is a series of three dimensional free standing static structures formed from a plurality of interconnected rigid compression members or struts and flexible tension members or guys (e.g. wire cables, chains or elastic cords). Each strut [is] may be in pure compression (i.e. no bending or twisting forces) and each guy [is] may be in pure tension. The struts are discontinuous in several variations [o]and/or combinations of the [five different] embodiments of this invention, intersect at an internal or peripheral point in others, or radiate outwardly from an internal central point in still others. [The five different] [e]Embodiments (each with multiple variations) of this invention [are] include; 1) **HYPERBOLOID** SGS's, 2) **PLANAR** SGS's, 3) **HYP-PAR SGS's**, 4) **RADIS SGS's**, and 5) **POLYGONAL SGS's**.

[Three or four] Different configurations of guy arrangement [are] may be claimed for each strut arrangement in [each] embodiments [(with the exception of the three that are part of prior art as described above)]. The guys can be configured in a 1) circumferential, 2) radial or 3) in an internal arrangement in addition to the obvious 4) linear arrangement.

By judicious choice of materials a wide range of strength, toughness, rigidity and/or flexibility and load response characteristics can be designed into these structures. By judicious combinations of **SGS's** either with other **SGS's** or with traditional structures, redundancy and failure tolerant designs can be achieved. Attractive and interesting as well as functional designs for applications where the structure will be visible are also

advantages of this invention. These SGS's [are] may be pre-stressed and by varying this pre-stress load the designer can achieve differing structural characteristics (e.g. rigidity, resonance damping etc.) with the same structural elements

On page 5, please amend the first and second full paragraphs as follows:

SGS's can be utilized as stand-alone modules or modules can be combined by connecting them at any point on a strut or guy in a nested, [(]overlapping[)] or an adjacently attached configuration to assemble composite SGS's. SGS's can similarly be combined with traditional structures to form additional composite structures.

[These] At least some embodiments of SGS's can be made collapsible by utilizing a means of disconnecting the guys from the struts and/or utilizing a means to elongate selected guys or shortening selected struts.

On page 7, please amend the second paragraph as follows:

FIG. 4A is a 10 discontinuous strut **HYP-PAR SGS** with one of the three hyperbolic paraboloid surfaces having six struts and the other two having two each. This structure has a radial arrangement of guys between the edge struts of each of the three hyperbolic paraboloid surfaces (the ends of these edge struts form four "end planes" where the tetrahedron is truncated and the edge struts are also oriented in a **HYPERBOLOID** configuration with respect to each other) and a linear arrangement of guys between the struts of the single 6 and the two 2 strut hyperbolic [parabloid]paraboloid surfaces.

On page 9, please amend the first, second, third and fourth paragraphs as follows:

This invention is a series of three dimensional, free standing static structures titled **SELF-GUYED STRUCTURES (SGS's)**. They [are] may be composed of a plurality of compression and tension members The compression members or struts [are] may be in pure compression (i.e. no bending or twisting forces) and the tension members or guys

(e.g. wire cables, chains or elastic cords) [are] may be in pure tension and have both ends attached to the structure itself, not an external anchor point. The struts are discontinuous in several variations [o]and/or combinations of [the five different] embodiments of this invention, intersect at an internal or peripheral point in others, or radiate outwardly from an internal central point in still others. [The five e]Embodiments (described in more detail below) of this invention [are] include[;]:1) **HYPERBOLOID SGS's**, 2) **PLANAR SGS's**, 3) **HYP-PAR SGS's**, 4) **RADIS** SGS's, and 5) **POLYGONAL SGS's**.

[Three] Different configurations of guy arrangement [are] may be claimed for each strut arrangement in [each] embodiments [(with the exception of the three that are part of prior art as described above)]. The guys can be configured in a 1) circumferential, 2) radial or 3) internal arrangement (described in more detail below).

By judicious choice of materials a wide range of strength, toughness, rigidity and/or flexibility and load response characteristics can be designed into these structures. By judicious combinations of **SGS's** either with other **SGS's** or with traditional structures, redundancy and failure tolerant designs can be achieved. Attractive and interesting as well as functional designs for applications where the structure will be visible are also advantages of this invention. These SGS's [are] may be pre-stressed and by varying this pre-stress load the designer can achieve differing structural characteristics (e.g. rigidity, resonance damping etc.) with the same structural elements

SGS's can be utilized as stand-alone modules or modules can be combined by connecting them at any point on a strut or guy in a nested, [(]overlapping[)] or an adjacently attached configuration to assemble composite SGS's. **SGS's** can similarly be combined with traditional structures to form additional composite structures.

On page 10, please amend the, first and second full paragraphs and the last paragraph, which begins on page 10 and ends on page 11, as follows:

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At least some embodiments of [T]these SGS's can be made collapsible by utilizing a means of disconnecting the guys from the struts and/or utilizing a means to elongate selected guys or shortening selected struts.

[Five] Several embodiments as well as multiple variations of each embodiment of these **SELF-GUYED STRUCTURES (SGS's)**. are included in this invention.

1) At least one embodiment of the **HYPERBOLOID SGS's** [consist of] may comprise three or more struts (labeled as 20 in **FIG. 1A, 2A, 2B, 2C and 2D** arranged on the surface of a hyperboloid of revolution of one sheet. The struts are discontinuous in several variations of this embodiment and intersect at an internal or a peripheral point in other variations. The term discontinuous is used to mean the struts do not touch each other in the construction of the SGS and it means they do not intersect each other either internally or on the periphery of the SGS. The vertical guys (labeled as 30 in **FIG. 1A, 2A, 2B, 2C and 2D** [also] may lie on the surface of a separate hyperboloid of revolution of one sheet. These structures [are] may be enantiomorphic in that struts and vertical guys can have a left handed or a right handed helicity. The lengths of the struts can be equal or of different length and although the length of each strut must span the mid-plane of the hyperboloid of revolution they need not have equal lengths on either side of the mid-plane. The roughly circular arrangement of strut ends on either side of the mid-plane form what are called "end-planes". In the simpler variations the strut ends/guy attachment points which define "end-planes" are indeed planes and are parallel to the mid-plane of the hyperboloid of revolution. In other variations the strut ends/guy attachment points need not form a true plane nor do they need to be parallel to the mid-plane. Non-parallel "end-planes" and/or non-equal length struts would allow design options for combinations of structures to exhibit a curvature. However the term "end-planes" will be used to label this part (connected by guys labeled 30a, 30b, 30c or 30d of **FIG. 1A, 2A, 2B, 2C and**

2D) of the **HYPERBOLOID SGS. FIG. 1A, 2A, 2B, 2C and 2D** are only four of the many possible variations of the **HYPERBOLOID SGS** embodiment claimed as a part of this invention. <u>Additional</u> [Three] guy configurations [are] <u>may be</u> claimed for each variation of the **HYPERBOLOID SGS's** embodiment as described below.

On page 11, please amend the first, second, and third full paragraphs, and the last paragraph, which begins on page 11 and ends on page 12, as follows:

2) <u>At least one embodiment of</u> **PLANAR SGS's** <u>may</u> have a minimum of three struts defining a minimum of three planes (there can also be four or more planes) which intersect as necessary to form a three dimensional structure with integrity. These planes can be, but do not necessarily have to be, orthogonal to each other nor does each strut in a given plane need to be parallel to the other struts in the same plane. These struts are discontinuous in several variations of this embodiment and intersect at an internal or a peripheral point in other variations. **FIG's 3A and 3B** are only two of the many variations of the **PLANAR SGS** embodiment claimed as a part of this invention. <u>Additional</u> [Four] guy configurations [are] <u>may be</u> claimed for each variation of the **PLANAR SGS's** embodiment as described below.

3) <u>At least one embodiment of</u> **HYP-PAR SGS's** may have struts which lie on a hyperbolic paraboloid surface. <u>At least one embodiment of</u> [T]<u>t</u>hese [SGS's has<u>s</u>[ve] a minimum of four struts two in each of two hyperbolic [parabaloid]<u>paraboloid</u> surfaces which intersect as necessary to form a three dimensional structure with integrity. These surfaces can be, but need not necessarily be, orthogonal to each other. Also there can be more than 2 hyperbolic paraboloid surfaces. The struts are discontinuous in several variations of this embodiment and intersect at an internal or a peripheral point in other

variations. [**FIG's 4A and 4B** are only two of the many variations of the **HYP-PAR SGS** embodiment claimed as a part of this invention. Additional [Three] guy configurations [are] may be claimed for each variation of the **HYP-PAR SGS's** embodiment as described below.

4) At least one embodiment of **RADIAL SGS's** has[ve] four or more struts arranged such that compressive forces are radially vectored from an internal central point. The inward strut ends may all connect at this internal central point. The internal central point need not be the exact center of the polygon but must be internal to the polygonal faces whose vertices are defined by the guy connections to the outward ends of the struts. **FIG's 5A and 5B** are only two of the many variations of the **RADIAL SGS** embodiment claimed by this invention. Additional [Four] guy configurations [are] may be claimed for each of these **RADIAL SGS's** as described below.

On page 12, please amend the first and second full paragraphs as follows:

5) At least one embodiment of **POLYGONAL SGS's** has[ve] four or more struts arranged in a generally radial (but not precisely radial) configuration. The struts are discontinuous in several variations of this embodiment and intersect at an internal or a peripheral point in other variations. The outward ends of the struts [are] may be connected by guys at points which are the vertices of a tetrahedron in **FIG 6A**, a cube in **FIG 6B** and an octahedron in **FIG 6C**. The inner strut ends may form a skewed quadralateral in the tetrahedral version (**FIG 6A**), a rotated inner cube for the cubic version (**FIG 6B**), and a three sided twisted prism for the octahedral version (**FIG 6C**) of the illustrated **POLYGONAL SGS's** and other configurations for other polygons. The outer strut ends [are] may be connected by guys such that an inward force is created and the inner strut ends are connected by guys resulting in an outward force which reacts the inward force resulting in structural integrity. **FIG's 6A, 6B, and 6C** are only three of the many variations

of the **POLYGONAL SGS** embodiment claimed by this invention. [Four i]Inner and [four] outer guy configurations [are] may be claimed for the **POLYGONAL SGS's** as described below.

In addition to the obvious linear guy arrangement, [the three] guy configurations (and combinations of these arrangements) which are claimed for each of the above strut configurations [are] may be as follows[;]:

On page 13 please amend the third full paragraph and the last paragraph, which begins on page 13 and ends on page 14, as follows:

SELF-GUYED STRUCTURES (SGS's) can be utilized as stand-alone modules or modules can be combined by connecting them at any point on a strut or guy in a nested, [(]overlapping[)] or an adjacently attached configuration to assemble composite **SGS's**. Parts of one SGS can be combined with parts of another (e.g. one plane of the 3 discontinuous strut **PLANAR** with two planes of the **HYP-PAR** as well as many other combinations). These **SGS's** can also be combined with traditional structures. In these combinations it is sometimes possible to have a strut and/or a guy that is common to one or more of the combined structures thus allowing the elimination of the extra member(s) and thereby economizing on the total number of separate structural members.

At least one embodiment of [T]these **SGS**'s structures can be made collapsible by a suitable means of disconnecting guys from struts and/or elongating selected guys or shortening selected struts. The degree of pre-stress used to construct [each] at least some embodiments of **SGS's** can be varied to achieve certain design goals.

Please amend the Abstract as follows:

ABSTRACT

A series of static structures formed from a plurality of interconnected rigid compression members or struts and flexible tension members or guys (e.g. wire cables, chains or elastic cords) is disclosed. [Each strut is in pure compression (i.e. no bending or twisting forces) and each guy is in pure tension.] The struts are discontinuous in several embodiments of the invention, intersect at an internal or peripheral point in others, or radiate outwardly from an internal central point in still others. [Three or four] Different configurations of guy arrangements [are] may be described and claimed for each of the [five] embodiments of this invention. Self-Guyed Structures (SGS's) can be utilized as a stand-alone module or modules can be combined by connecting them at any point on a strut or guy in a nested, [(]overlapping[)] or an adjacently attached configuration to assemble composite SGS's. [Collapsible SGS's can be made by using a suitable means to disconnect struts from guys and/or a suitable means for elongating selected guys or shortening selected struts. For certain given design parameters, SGS's can be made more material efficient and lighter than previous similar structures and other conventional structures. Aesthetically pleasing designs for applications where the structure is to be visible can be readily achieved.]

EXHIBIT B

(VERSION WITH MARKINGS TO INDICATE CHANGES MADE)

PROPOSED AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, specifically canceling without prejudice claims 1-14 and adding claims 15-55:

[CLAIMS]

I claim

[1. **HYPERBALOID** three dimensional free standing static structures consisting of four or more discontinuous compression members or struts arranged to form elements of the surface of a hyperboloid of revolution of one sheet and with tension members or guys arranged in a circumferential, a radial or an internal configuration connecting the strut ends of each "end-plane" and in combination with the vertical guys in an internal configuration or on the surface of a separate hyperboloid of revolution of one sheet.

2. **HYPERBOLOID** structures combined with other complete or partial structures as in claims 1,3,4,6,7,9 and 11 or combined with other traditional structures in a nested (overlapping) or adjacent configuration wherein the struts or guys may or may not intersect and common elements may or may not be eliminated from the structure for economy reasons.

3. **HYPERBOLOID** three dimensional free standing static structures consisting of three discontinuous compression members or struts arranged to form elements of the surface of a hyperboloid of revolution of one sheet and with tension members or guys

arranged in a circumferential, a radial or an internal configuration connecting the strut ends of each "end-plane" and in combination with the vertical guys in an internal configuration or on the surface of a separate hyperboloid of revolution of one sheet.

4. **PLANAR** three dimensional free standing static structures consisting of three and six compression members or struts arranged to form elements of the surfaces of three intersecting planes which may or may not be orthogonal and where the struts in each plane may or may not be parallel and with tension members or guys arranged in a radial, a linear or an internal configuration connecting the strut ends defining the polygonal faces of these structures.

5. **PLANAR** structures combined with other complete or partial structures as in claims 1,3,4,6,7,9 and 11 or combined with traditional structures in a nested (overlapping) or adjacent configuration wherein the struts or guys may or may not intersect and common elements may or may not be eliminated from the structure for economy reasons.

6. **PLANAR** three dimensional free standing static structures consisting of four, five and seven or more compression members or struts arranged to form elements of the surface of a minimum of three intersecting planes which may or may not be orthogonal and where the struts in each plane may or may not be parallel and may or may not intersect each other at an internal or a peripheral point and with tension members or guys arranged in a circumferential, a radial, a linear or an internal configuration connecting the strut ends defining the polygonal faces of these structures.

7. **HY-PAR** three dimensional free standing static structures consisting of four or more discontinuous compression members or struts arranged to form a minimum of two hyperbolic paraboloid surfaces which may or may not be orthogonal and with a minimum of two struts in each surface with tension members or guys arranged in a circumferential, a radial, a linear or an internal configuration connecting the strut ends defining the "end-planes" and with linear guys between ends of struts not on the edges of the hyperbolic paraboloid surfaces.

8. **HY-PAR** structures combined with other complete or partial structures as in claims 1,3,4,6,7,9 and 11 or combined with traditional structures in a nested (overlapping) or adjacent configuration wherein the struts or guys may or may not intersect and common elements may or may not be eliminated from the structure for economy reasons.

9. **RADIAL** three dimensional free standing static structures consisting of four or more compression members or struts arranged to form elements radiating from an internal central point which is not necessarily the exact center point and with tension members or guys arranged in a circumferential, a linear, a radial or an internal configuration connecting the outer strut ends defining the polygonal faces of these structure.

9. **RADIAL** structures combined with other complete or partial structures as in claims 1,3,4,6,7,9 and 11 or combined with traditional structures in a nested (overlapping) or adjacent configuration wherein the struts or guys may or may not intersect and common elements may or may not be eliminated from the structure for economy reasons.

11. **POLYGONAL** three dimensional free standing static structures consisting of four or more compression members or struts arranged in a generally radial manner with the outer ends of these struts connected by guys that are in a circumferential, a radial, a linear or an inward configuration such that an inward force is applied to the struts and with the inner strut ends connected by guys that are in a circumferential, a radial, a linear or an inner configuration such that an outward force is applied to the struts balancing the aforementioned inward force and resulting in structural integrity of these structures.

12. **POLYGONAL** structures combined with other complete or partial structures as in claims 1,3,4,6,7,9 and 11 or combined with traditional structures in a nested (overlapping) or adjacent configuration wherein the struts or guys may or may not intersect and common elements may or may not be eliminated from the structure for economy reasons.

13. Three dimensional free standing static structures as in claims 1 through 12 that are collapsible by means of disconnecting guys from struts or by means of elongating selected guys or shortening selected struts.

14. Three dimensional free standing structures as in claims 1 through 12 that utilize various amounts of pre-stress to achieve design goals.]

<u>15. A three-dimensional structure comprising:</u>

<u>at least four compression members situated on the surface of a first hyperboloid of revolution of one sheet having a mid-plane that is perpendicular to the conjugate axis of said first hyperboloid;</u>

wherein each said at least four compression members includes:

- a first portion located on the surface of said first hyperboloid on one side of the mid-plane of said first hyperboloid and

- a second portion located on the surface of said first hyperboloid on the other side of the mid-plane of said first hyperboloid;

a first set of at least four tension members that connect said first compression member portions with one another;

a second set of at least four tension members that connect said second compression member portions with one another; and

a third set of at least four tension members that each connects at least one of said first compression member portions with at least one of said second compression member portions of a different compression member.

16. A three-dimensional structure as described in claim 15 wherein said third set of at least four tension members is situated on the surface of a second hyperboloid of revolution of one sheet.

17. A three-dimensional structure as described in claim 15 wherein at least three tension members are arranged in a radial configuration.

18. A three-dimensional structure as described in claim 15 wherein at least one tension members are arranged in a circumferential configuration.

19. A three-dimensional structure as described in claim 15 wherein at least one tension member is arranged in an internal configuration.

20. A three-dimensional structure comprising:

at least three compression members situated on the surface of a first hyperboloid of revolution of one sheet having a mid-plane that is perpendicular to the conjugate axis of said first hyperboloid, wherein each said at least three compression members includes:

- a first portion located on the surface of said first hyperboloid on one side of the mid-plane of said first hyperboloid; and
- a second portion located on the surface of said first hyperboloid on the other, second side of the mid-plane of said first hyperboloid;

a first set of at least three tension members that connect said first compression member portions with one another;

a second set of at least three tension members that connect said second compression member portions with one another; and

a third set of at least three tension members that each connects at least one of said first compression member portions with at least one of said second compression member portions of a different compression member,

wherein at least three tension members are configured in a radial configuration.

21. A three-dimensional structure as described in claim 20 wherein said at least three tension members configured in a radial configuration are of said first set of at least three tension members.

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22. A three-dimensional structure as described in claim 20 wherein said at least three tension members configured in a radial configuration are of said second set of at least three tension members.

23. A three-dimensional structure as described in claim 20 wherein said third set of at least three tension members is situated on the surface of a second hyperboloid of revolution of one sheet.

24. A three-dimensional structure comprising:

at least three compression members situated on the surface of a first hyperboloid of revolution of one sheet having a mid-plane that is perpendicular to the conjugate axis of said first hyperboloid, wherein each said at least three compression members includes:

- a first portion located on the surface of said first hyperboloid on one side of the mid-plane of said first hyperboloid; and
- a second portion located on the surface of said first hyperboloid on the other, second side of the mid-plane of said first hyperboloid;

a first set of at least three tension members that connects said first compression member portions with one another;

a second set of at least three tension members that connects said second compression member portions with one another; and

a third set of at least three tension members that each connects at least one of said first compression member portions with at least one of said second compression member portions of a different compression member,

wherein at least one tension member is configured in an internal configuration.

25. A three-dimensional structure as described in claim 24 wherein said at least one tension members configured in an internal configuration is of said first set of at least three tension members.

26. A three-dimensional structure as described in claim 24 wherein said at least one tension members configured in an internal configuration is of said second set of at least three tension members.

27. A three-dimensional structure as described in claim 24 wherein said at least one tension members configured in an internal configuration is of said first third of at least three tension members.

28. A three-dimensional structure as described in claim 24 wherein said third set of at least three tension members is situated on the surface of a second hyperboloid of revolution of one sheet.

29. A three-dimensional structure comprising:

at least three compression members that each lie on the surface of one of at least three different planes that intersect one another; and

a set of at least six tension members that connects each of said at least three compression members with at least one other compression member of said at least three compression members,

wherein at least three tension members of said set of at least six tension members are arranged in a radial configuration.

30. A three-dimensional structure comprising:

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at least three compression members that each lie on the surface of one of at least three different planes that intersect one another; and

a set of at least six tension members that connects each of said at least three compression members with at least one other compression member of said at least three compression members,

wherein at least one tension member of said set of at least six tension members is arranged in an internal configuration.

31. A three-dimensional structure comprising:

at least four compression members that lie on the surfaces of two different planes that intersect one another; and

a set of at least six tension members that connects each of said at least four compression members with at least one other compression member of said at least four compression members.

32. A three-dimensional structure as described in claim 31 wherein at least one tension member is arranged in an internal configuration.

33. A three-dimensional structure as described in claim 31 wherein at least three tension members are arranged in a radial configuration.

34. A three-dimensional structure as described in claim 31 wherein at least one tension member is arranged in a circumferential configuration.

35. A three-dimensional structure comprising:

a first set of at least two compression members situated on the surface of a first hyperbolic paraboloid;

a second set of at least two compression members situated on the surface of a second hyperbolic paraboloid; and

a set of at least twelve tension members which connect said compression members with one another,

wherein said second hyperbolic paraboloid surface intersects said first hyperbolic paraboloid surface.

36. A three-dimensional structure as described in claim 35 wherein at least one of said at least twelve tension members is arranged in an internal configuration.

37. A three-dimensional structure as described in claim 35 wherein at least three of said set of at least twelve tension members are arranged in a radial configuration.

38. A three-dimensional structure as described in claim 35 wherein at least one of said set of at least twelve tension members is arranged in a circumferential configuration.

39. A three-dimensional structure comprising:

at least four compression members having ends that contact at a common spatial point from which each of said at least four compression members radiates outwardly; and

a set of at least six tension members that connect said at least four compression members with one another.

40. A three-dimensional structure as described in claim 39 wherein at least three tension members of said set of at least six tension members are arranged in a radial configuration.

41. A three-dimensional structure as described in claim 39 wherein at least one tension member of said set of at least six tension members are arranged in a circumferential configuration.

42. A three-dimensional structure as described in claim 39 wherein at least one tension member of said set of at least six tension members are arranged in an internal configuration.

43. A three-dimensional structure comprising:

at least four compression members;

an outer set of at least six tension members that connects said at least four compression members with one another at outer tension member attachments; and

an inner set of at least four tension members that connects said at least four compression members with one another at inner tension member attachments,

wherein said inner tension member attachments and said outer tension member attachments are disposed on said at least four compression members,

wherein said outer tension member attachments define an outer enclosing surface that has only polygonal faces, and

wherein said inner tension member attachments are disposed within said outer enclosing surface.

44. A three-dimensional structure as described in claim 43 wherein at least one tension member is arranged in an internal configuration.

45. A three-dimensional structure as described in claim 43 wherein at least three tension members are arranged in a radial configuration

46. A three-dimensional structure as described in claim 43 wherein at least three tension members are arranged in a circumferential configuration.

47. A three-dimensional structure comprising:

at least three compression members; and

at least six tension members that connect said at least three compression members with one another,

wherein at least three of said at least six tension members are arranged in a radial configuration.

48. A three-dimensional structure comprising:

at least three compression members; and

a set of at least six tension members that connect said at least three compression members with one another, and

wherein at least one of said tension members is arranged in an internal configuration.

49. A three-dimensional structure comprising:

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at least three compression members,

wherein at least two of said at least three compression members are situated on the surface of a first hyperboloid of revolution of one sheet;

wherein at least one other compression member of said at least three compression members is situated on the surface of at least a second hyperboloid of revolution of one sheet,

wherein each said hyperboloid of revolution of one sheet has a mid-plane that is perpendicular to the conjugate axis of the hyperboloid, and

wherein each said at least three compression members includes:

- a first portion situated on one side of the mid-plane of the hyperboloid upon which it is situated;

- a second portion situated on the other side of the mid-plane of the hyperboloid upon which it is situated;

a first set of at least three tension members that connect said first compression member portions with one another;

a second set of at least three tension members that connect said second compression member portions with one another; and

a third set of at least three tension members that each connect at least one of said first compression member portions with at least one of said second compression member portions of a different compression member.

50. A three-dimensional structure as described in claim 49 wherein at least one of said tension members is arranged in an internal configuration.

51. A three-dimensional structure as described in claim 49 wherein at least three of said tension members are arranged in a radial configuration.

52. A three-dimensional structure as described in claim 49 wherein at least one of said tension members are arranged in a circumferential configuration.

53. A three-dimensional structure as described in claims 15, 20, 24, 29, 30, 31, 35, 39, 43, 47, 48, or 49 wherein each of said compression members is straight.

54. A three-dimensional structure as described in claims 15, 20, 24, 29, 30, 31, 35, 39, 43, 47, 48 or 49 wherein each said tension members attaches ends of at least two compression members.

55. Compression members and tension members that are configurable to form the three-dimensional structure as described in 15, 20, 24, 29, 30, 31, 35, 39, 43, 47, 48 or 49.